505.3.05 Construction

A. Installing Plank

Install the corrugated steel bridge plank as follows:

1. Place the plank as shown on the Plans.
2. Ensure that the bottom corrugations have full bearing on supporting members.
3. Hold the bottom corrugations in full contact with the supporting members until they are securely connected according to the details shown on the Plans.

B. Welding

All welds shall be of the type and size, and be placed at the location shown on the Plans. All welding shall meet the requirements of Subsection 501.3.06.C, "Welded Construction."

C. Field Painting

Apply the type of paint and the number of coats shown on the Plans according to Section 535.

505.3.06 Quality Acceptance

General Provisions 101 through 150.

505.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

505.4 Measurement

This work will be measured for payment in square feet (meters), including laps of accepted planks.

505.4.01 Limits

General Provisions 101 through 150.

505.5 Payment

This work will be paid for at the Contract Price per square foot (meter) for corrugated steel bridge plank complete in place.

Payment will be made under:

Item No. 505	Corrugated Steel Bridge Plank	Per square foot (meter)

505.5.01 Adjustments

General Provisions 101 through 150.

Section 506—Expanded Mortar

506.1 General Description

This work consists of making and placing expanded mortar composed of a special Portland cement concrete and an aluminum powder additive.

506.1.01 Definitions

General Provisions 101 through 150.

506.1.02 Related References

A. Standard Specifications

Section 800—Coarse Aggregate

Section 801—Fine Aggregate

Section 830—Portland Cement

Section 835—Aluminum Powder

Section 880—Water

B. Referenced Documents

General Provisions 101 through 150.

506.1.03 Submittals

General Provisions 101 through 150.

506.2 Materials

All materials shall meet the requirements of the following Specifications:

Material	Section
Portland Cement, Type I	830.2.01
Coarse Aggregate, Class A or B Stone, Size No. 89	800.2.01
Fine Aggregate, Size No. 10	801.2.02
Water	880.2.01
Aluminum Powder	835.2.01

506.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

506.3 Construction Requirements

506.3.01 Personnel

General Provisions 101 through 150.

506.3.02 Equipment

General Provisions 101 through 150.

506.3.03 Preparation

A. Using Expanded Mortar for Shear Keys

When using expanded mortar for shear keys on precast bridge decks, thoroughly clean and saturate the recesses in the precast decks with clean water before placing the mortar.

506.3.04 Fabrication

General Provisions 101 through 150.

506.3.05 Construction

Mix and use expanded mortar according to the following:

A. Proportion Expanded Mortar

Ensure that the expanded mortar consists of a fresh mixture of the composition given in the following table:

Proportions for Expanded Mortar				
Pounds (kilograms) of Portland Cement	Lbs(kgs) of Saturated Surface Dry Aggregate per Bag of Cement		Maximum Water per Bag of Cement	Quantity of Aluminum Powder
	Fine	Coarse		
94 (42.6)	140 (63.5)	140 (63.5)	6 gal (22.7 L)	1 level tsp. (5 mL)

B. Mix Expanded Mortar

Mix the materials as follows:

1. Mix the materials dry, either in a clean mixer or in a clean, tight box until a uniform mixture is produced.
2. Add enough water to produce the desired consistency, but do not add more water than specified in the “Proportions for Expanded Mortar” table in Subsection 506.3.05.A.

C. Use Expanded Mortar

Begin using the expanded mortar according to the temperature requirements in the following table:

Temperature	Required Action
> 90 °F (> 32 °C)	Use mortar within 15 minutes after mixing.
70 °F to 90 °F (21 °C to 32 °C)	Use mortar within 30 minutes after mixing.
40 °F to 70 °F (4 °C to 21 °C)	Use mortar within 30 minutes after mixing.*
*Mortar may require additional aluminum powder to secure the required expansion. Additional amounts shall range from 0% at 70 °F (21 °C) to 100% at 40 °F (4 °C) in a straight-line proportion.	

D. Place Expanded Mortar

Place the expanded mortar as follows:

1. Expanded Mortar for Shear Keys
   a. Completely fill the shear key with mortar.
   b. Rod the mortar into a dense, homogenous mass.
   c. Float the mortar off flush with the surface of the precast decks.
   d. Moist cure the mortar continuously for a minimum of three days.
2. Placement Restrictions
   Do not place the mortar until after the entire bridge has been erected and all units are in final alignment.
   Do not allow traffic on the bridge decks until 5 days after the expanded mortar is placed.

506.3.06 Quality Acceptance

General Provisions 101 through 150.

506.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

506.4 Measurement

Expanded mortar is not measured for separate payment.

506.4.01 Limits

General Provisions 101 through 150.

506.5 Payment

Expanded mortar will be paid for at the Contract Price for concrete of the same Class as the concrete the mortar comes in contact with, and the Contractor shall include the cost of expanded mortar in the Contract Price for such concrete.

506.5.01 Adjustments

General Provisions 101 through 150.

Section 507—Prestressed Concrete Bridge Members

507.1 General Description

This work consists of furnishing prestressed concrete bridge members, complete in place, except as noted for piling in this Specification. The work includes all items and work necessary to complete the erection according to the Plans and Specifications. All prestressed concrete bridge member nominal lengths shown on the plans are horizontal dimensions. The contractor will be responsible for adjusting the lengths, as necessary, to account for the final erected position of the member. Fabricate the ends of all members to be vertical in the final erected position. Bearing assemblies need to be sloped to accommodate the erected position of the member.